AGRICULTURAL TYPOLOGY FOR MODERNISATION:
A CASE STUDY OF RAYALASEEMA REGION, ANDHRA PRADESH

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ABSTRACT

In agricultural typology agricultural holding is a basic unit for the agro- geographic studies of agricultural classification. According to Olmstead (1970) “the form is regarded as a basic unit which can be explained as a functioning system”. The agricultural researches, which could be carried out with the help of secondary data at macro- level, wouldn’t refer and reflect the real unit of operation. In the words of Hill (1986, P.89) the application of the concept of typology at the country level or macro- regional level would be virtually meaningless, though having the great advantage that the aggregate data (which are mostly available and of fairly good reliability) could be used. Therefore in agricultural typology sample studies at agricultural holding level as well as sample unit level are highly reliable and recommended, so an attempt is made in the present study to search for agricultural classification based upon the concept of agricultural typology at micro scale by taking a village and an agricultural holding as the units of the analysis.

Key words
Agricultural typology, Agriculture holding, Sustainable development and Modernization

Introduction

To identify a set of relatively homogeneous agricultural regions, In the form of types for better comparison and projecting for the coming future, agricultural typology attempts greatly. Agricultural typology is considered to be the complex character associating all the essential attributes of agriculture.

The definition or identification of agricultural attributes should be based upon a number of parameters reflecting the inherent, internal characteristic features of given agriculture. Thus, in the regional agricultural systems to identify an area by its functional characteristic agricultural types has a special significance and identification.
In Rayalaseema region where agriculture is predominant as well as diversified land, cropping and production system, it is prerequisite and very important to evolve different types of agriculture for modernization.

This type of studies will help in identifying the weaker areas and associated agricultural factors in terms of agricultural status.

**Study Region**

An attempt to identify the types of agriculture quantitatively for comprehensive understanding and better comparison of agricultural scenario of Rayalaseema region for Modernization is done in the present study.

**Objectives of the Study**

To find out the spatial distribution pattern of inherent agricultural characteristics namely
1. Social, Operational, Production and Structural attributes.
2. To recognize the agricultural types at mandal unit level.
3. To recognize the weaker areas in terms of agricultural development in order to provide insights to the problems of spatial organization of agriculture, which ultimately provides the basis for appropriate micro level planning.
Hypothesis of the Study

1. Socio economic status of the farmer’s, size of holding and location of agricultural holdings are the main factors pertaining to modernization and production system of agriculture.
2. The diversification of cropping is confined to rain fed and drought prone areas while the specialization of the crop forming to the irrigated areas.
3. The type of agriculture gradually changing form traditional labour intensive subsistence crop agriculture to modern mechanized market oriented agriculture.

Data Base

In the present research secondary data is used for the analysis of spatial distribution pattern of inherent agricultural characteristics namely social, operational, production and structural attributes to find out the types of agriculture.

The secondary data collected at mandal administrate areal unit level, to find out agricultural types at different levels in Rayalaseema region of Andhra Pradesh, secondary data is collected for the latest year 2011-12.

Methodology

1. In the present study Cartographic and quantitative techniques are employed for the analysis of data.
2. The thematic mapping of entire secondary data has represented by using Arc GIS 9.3 software.
3. The identification of agriculture types at mandal administrative unit level is done on the basis of methodology as suggested by IGU Commission on agricultural typology headed by Kostrowicki and his team.

The entire analysis in the study is made with the help of computer programming to identify agricultural types.

Analysis

First order Types

At mandal level there are four types of agriculture are identified. They are symbolically expressed as ‘T’, ‘M’, ‘L’ and T/M.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Number of mandals</th>
<th>Type of agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>209</td>
<td>T</td>
</tr>
<tr>
<td>2.</td>
<td>13</td>
<td>M</td>
</tr>
<tr>
<td>3.</td>
<td>10</td>
<td>L</td>
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<td>4.</td>
<td>02</td>
<td>T/M</td>
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</table>

T - Denotes **Traditional Small Scale agriculture**.
M - Describes as **Market oriented agriculture**.
L - Represents **Traditional large-scale agriculture**.
T/M - Described as **Traditional small scale (peasant agriculture)/ market oriented agriculture**.
Agricultural types of Second order

5 types of second order agricultural types are noticed which are symbolically expressed as Tm, Tf, Mm, Li and Ts

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</tr>
<tr>
<td>2.</td>
<td>72</td>
<td>Tf</td>
</tr>
<tr>
<td>3.</td>
<td>13</td>
<td>Mm</td>
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<tr>
<td>4.</td>
<td>10</td>
<td>Li</td>
</tr>
<tr>
<td>5.</td>
<td>04</td>
<td>Ts</td>
</tr>
</tbody>
</table>

Tm - described as *Traditional Small Scale Mixed Agriculture*

Tf - described as *Traditional Small Scale peasant agriculture with fruit growing dominant.*

Mm - described as *Small Scale Market oriented Mixed Agriculture.*

Li - described as traditional latifundia.

Ts - described as Traditional Fruit Farming
Agricultural types of Third order

This analysis resulted to identify 8 third order types, as follows

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<th>Type of agriculture</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>46</td>
<td>Tmg</td>
</tr>
<tr>
<td>2.</td>
<td>46</td>
<td>Tiu</td>
</tr>
<tr>
<td>3.</td>
<td>39</td>
<td>Tmy</td>
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<td>4.</td>
<td>45</td>
<td>Tir</td>
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<tr>
<td>5.</td>
<td>32</td>
<td>Tme</td>
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<tr>
<td>6.</td>
<td>13</td>
<td>Tnf</td>
</tr>
<tr>
<td>7.</td>
<td>10</td>
<td>Llm</td>
</tr>
<tr>
<td>8.</td>
<td>02</td>
<td>TfP</td>
</tr>
</tbody>
</table>

Tmg - Traditional Small Scale labour intensive, low productive subsistence, mixed dual purpose Agriculture

Tiu - Traditional peasant irrigated, medium productive, semi-subsistence to semi-commercial crop agriculture

Tmy - Traditional Small Scale labour intensive, low to moderate productive Mixed Agriculture.

Tir - Traditional semi-irrigated, low productive, semi-subsistence crop agriculture

Tme - Traditional mixed extensive agriculture
Conclusions

From the above analysis, it is inferred that the dominance of certain agricultural attributes namely

- Type of ownership,
- Application of mechanical power,
- Level of capital input,
- Level of land labour productivity,
- Degree of commercialization,
- Orientation of crop land use,
- Intensity of irrigation
- Degree of livestock breeding

and intensity of livestock breeding has a strong influence in the recognition of agricultural types.

In the course of estimation of modernization and steps to be taken for modernization of agriculture, typology of agriculture plays a dominant role. By knowing agricultural types like ‘T’ is predominant with traditional small scale resembles small holdings, low irrigation potential, ‘M’ is predominant with the conditions of farmers input potentiality, irrigation potential, high percentage of rain occurrence, high level of mechanization and market facilities where as ‘L’ type of agriculture is representing traditional large scale dry factors. Based on the type of agriculture in concerned local area which represents total scenario of crop cultivation pattern and structure of local agricultural position of that area can be come known and ways can be drafted to modernize the agriculture.
Suggestions

- Water Resource development programmes.
- Modernization of Micro irrigation systems.
- Minimization of communal based disparities.
- Land ownership for deprived sections.
- Enhancement of mechanization.
- Using HYV and green manures.
- Governmental support.
- Supportive measures for commercial cropping and facilities for market.
- Forest conservation to avoid desertification.

These types of studies can help for localized development and modernization of agriculture and micro level studies will enforce further development.

References


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